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1 1. A pharmaceutical composition, comprising a
2 mixture of active compounds (A) a pharmaceutically active
3 polypeptide, and (B) an enhancer compound which enhances the
4 systemic absorption of said polypeptide in the lower
5 respiratory tract of a patient, said mixture being in the
6 form of a dry powder for inhalation, in which at least 50%
7 of the total mass of active compounds consists of primary
8 particles having a diameter less than or equal to about 10
9 microns, said primary particles optionally being formed into
10 agglomerates.

1 2. A pharmaceutical composition as claimed in claim
2 1, additionally comprising a pharmaceutically acceptable
3 carrier, which comprises either

4 (a) particles having a diameter of less than about
5 10 microns, such that at least 50 % of the resultant powder
6 consists of optionally agglomerated primary particles having
7 a diameter of less than about 10 microns; or

8 (b) coarse particles, such that an ordered mixture
9 is formed between the active compounds and the said carrier.

1 3. The composition of claim 1, wherein said
2 polypeptide is a polypeptide hormone.

1 4. The composition of claim 3, wherein said hormone
2 is vasopressin, a vasopressin analogue, desmopressin,
3 glucagon, corticotropin (ACTH), gonadotrophin (luteinizing
4 hormone, or LHRH), calcitonin, C-peptide of insulin,
5 parathyroid hormone (PTH), human growth hormone (hGH),
6 growth hormone (HG), growth hormone releasing hormone
7 (GHRH), oxytocin, corticotropin releasing hormone (CRH),
8 somatostatin analogs, gonadotropin agonist analogs (GnRHa),
9 atrial natriuretic peptide (hANP), thyroxine releasing
10 hormone (TRHrh), follicle stimulating hormone (FSH), or
11 prolactin.

1 5. The composition of claim 1, wherein said
2 polypeptide is a growth factor, interleukin, polypeptide
3 vaccine, enzyme, endorphin, glycoprotein, lipoprotein, or
4 polypeptide involved in the blood coagulation cascade, that
5 exerts its pharmacological effect systemically.

1 6. The composition of claim 1, wherein said
2 polypeptide has a molecular weight of less than 30 kD.

1 7. The composition of claim 1, wherein said
2 polypeptide has a molecular weight of less than 25 kD.

1 8. The composition of claim 1, wherein said
2 polypeptide has a molecular weight of less than 20 kD.

1 9. The composition of claim 1, wherein said
2 polypeptide has a molecular weight of less than 15 kD.

1 10. The composition of claim 1, wherein said
2 polypeptide has a molecular weight of less than 10 kD.

1 11. The composition of claim 1, wherein said
2 enhancer compound is a surfactant.

1 12. The composition of claim 11, wherein said
2 surfactant is a bile salt, a bile salt derivative, an alkyl
3 glycoside, a cyclodextrin or derivative thereof, or a
4 phospholipid.

1 13. The composition of claim 11, wherein said
2 surfactant is a salt of a fatty acid.

1 14. The composition of claim 11, wherein said fatty
2 acid has 10-14 carbon atoms.

1 15. The composition of claim 14, wherein said fatty
2 acid is capric acid.

1 16. The composition of claim 11, wherein said
2 surfactant is sodium caprate.

1 17. An inhaler device containing the composition of
2 claim 1.

1 18. The inhaler device of claim 17, wherein said
2 composition is in the form of said agglomerates, said device
3 being configured to induce the majority of said agglomerates
4 to break down into particles having a diameter less than or
5 equal to about 10 microns, upon inhalation of said
6 agglomerates from said device.

1 19. The inhaler device of claim 17, which inhaler
2 device is a unit dose, breath actuated, dry powder inhaler for
3 single use.

1 20. The inhaler device of claim 17, which inhaler
2 device is a multi-dose, breath actuated, dry powder inhaler for
3 multiple use.